



ESHETKARI: AN INTERFACE FOR FARMERS

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ABSTRACT

Application of IT is associated with markets in the developed countries where capital intensive method of agricultural production is followed. However, in a country like India where rural base is wide, its relevance cannot be overlooked. In addition to facilitating farmers in improving the efficiency and productivity of agriculture and allied activities, the potential of IT lies in bringing about an overall qualitative improvement in life by providing timely and quality information inputs for decision making.[1] IT can also be effectively used to strengthen the supply chain for agro based companies for leading to better price realization by farmers.

There are many IT based efforts which are used in this sector and many are underway which demonstrate the concrete benefits of IT for the rural population and the sector as a whole. The proposed interface is an attempt to discuss various IT based solution used in agriculture sector and evolution of entirely IT based practices of various companies carried at especially in agro-based companies to e-power people who live in rural India and also about the latest developments in IT that facilitate effective IT penetration to rural India.

KEYWORDS: eShetkari.

Introduction

The obtainability and reachability of information are the critical points in taking the optimal decision at right time. Nowadays, advancement of IT make possible to retrieve almost any information from the global reservoir (internet).The information in internet is primarily maintained in English .So, a large number of people are deprived from the benefit of internet due to technical and English language illiteracy. This scenario is very bad in developing country like India where nearly 70 % are English illiterate [3]. Moreover, a large percentage of the English literate people are also unable to find their exact need from the large database of internet due to lack of competent knowledge in English. Indian farmers lack in their skills in both technical as well as in English.

Nowadays, we can observe that the farmer issues some kind of loan from the bank but due to illiteracy he is unable to understand all the norms of the bank. Due to lack of knowledge about the working in banks, he fails to repay his loans on time which in turn falls prey to debt. We come across the information about the government passing many bills for the farmers, provides many subsidies but all this information is not made available or known to the farmer in time. Due to this farmers are unable to take advantage of the benefits provided to them by the government [3]. So, to make the information easily available to the farmers in time we have introduced this interface. With the help of this interface, farmers can easily improve their communication with the government bodies and get all the information related to the government notifications for its benefits. It also provides to improve communication with the bank by getting periodical notifications about their EMI payments, schemes for the farmers provided by the bank etc [2].

eShetkari interface can be used as smart system which will be more sophisticatedly working for benefit of the user. A user can be made aware about current weather statistics and new information regarding the crop rates in various regions so that the farmer can take the benefit of this information for increasing its revenue. He can even consult with experts if needed. This application can be very much helpful even if one could not read the information on the device by native language support provided in it. An inaccurate interpretation regarding production that is obtained within the specified conditions is also one of the very important factors which arouse a need to develop an amiable environment for farmers where they will be able to take corrective measures for a better and increased production. In this interface, there is an algorithm used called Production Prediction in which few parameters like soil type, weather, and name of the crop are fed by the user and based on the previous experiences the production is calculated by giving out the categorized results as high, low or medium production.

Materials and Methods:

We have different section of login for the people to use it on their own way. So based on the requirement there are users or farmers who will be using the system through a mobile phone i.e. an android phone, even they can use this system through a web browser in a machine or laptop.

Apart from this, there is a web panel from where the government agency and bank committee will login and feed up their data or information.

In the proposed system, we have also included a feature of weather forecasting which will help all the farmers to work according to weather prediction and get fruitful results. With respect to this farmer got an amazing option of predicting the future lines of production based on previous data and history populated in the system. So system will gain knowledge about the process ins and outs once farmer feeds in their previous experience. We aim to develop an android application through which the following functionalities can be achieved:

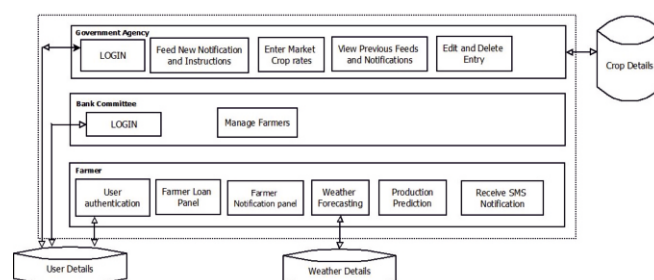
Farmers Loan Panel: Farmers login has a different set of features in it, they can view the complete loan details from start to end the complete description and calculation as what to pay and how much is been paid. Pending dues and deadlines etc. If they cross the limit of payment date then a message is thrown to the bank officials and all higher authorities so that they can look into the matter in a more concerned way.

Farmers Notification Panel: In this tab farmers will get to view all the notification and valuable information passed on by government bodies, so it plays an important role in filling up the gap between government and rural farmers.

Weather Forecasting and Crop rates: Using the API or PLUGINS which are available, we can work on showing the weather information and crop rates at different areas and cities. Using this information, they will get an idea about future work on process.

Production prediction: This is one of the important modules where it does the prediction based on certain criteria, like weather condition, soil and crops to grow. So based on these and past values or histories system will analyze whether it can be fruitful for the farmers to go ahead with same structure or not. So there will be an option for all farmers to feed in their own experience about past so that system uses those values and information and work on it to suggest for future prediction.

System Architecture :-



Results:

The proposed interface is able to overcome the digital and language confinement of the Indian farmers by employing the multiple modes of interaction techniques. At the current stage the eShetkari interface is limited to access the agricultural

information in the context of marathi language. However, it can be extended toward the agricultural context of any country in the world, which proves that the approach is generic.

eShetkari will improve the communication between the farmer, bank and government bodies. It will also provide expertise service to farmers regarding cultivation of crops, pricing and even will help in predicting the production rate of a particular crop with specific soil and weather conditions, which in turn will be helpful to obtain best crop cultivation in the recent history of the region. The relentlessly increasing importance and application of Information Technologies (ITs) in Agriculture have given birth to a new field called eShetkari, which focus on improving life cycle of the farmer.

Tables and figures:

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